IN THE CLAIMS

1. (Currently Amended) A peroxidase enzyme ~~derived~~ isolated from Geotrichum candidum Dec 1 ~~FERM BP-7032~~ FERM BP-7033, which has the following properties:

a) a property to degrade and decolorize a dye;

b) a molecular weight of 60 kDa, by the molecular weight assay as determined by SDS-PAGE;

c) a molecular weight of 55 kDa, by the molecular weight assay as determined by gel filtration; and

d) pI 3.8, as determined by an assay of isoelectric focusing.

2. (Previously Presented) The enzyme according to claim 1, having an amino acid sequence of SEQ ID NO. 7.

3. (Previously Presented) A gene encoding the enzyme according to claim 1, having a DNA sequence of SEQ ID NO. 8.

4. (Previously Presented) An expression plasmid vector comprising the gene according to claim 3.

5. (Previously Presented) A microorganism FERM BP-7032 transformed with the expression plasmid vector according to claim 4.

6. (Previously Presented) A method for degrading and decolorizing a dye, comprising

contacting a peroxidase enzyme derived from Geotrichum candidum Dec 1 FERM BP-7033, which has the following properties:

a) a property to degrade and decolorize a dye;

b) a molecular weight of 60 kDa, by the molecular weight assay as determined by SDS-PAGE;

c) a molecular weight of 55 kDa, by the molecular weight assay as determined by gel filtration; and

d) pI 3.8, as determined by the assay of isoelectric focusing,

or the microorganism according to claim 5

with the dye.

7. (Previously Presented) A method of culturing the microorganism according to Claim 5, comprising

contacting the microorganism of Claim 5 with a culture medium.

8. (Previously Presented) The method according to Claim 7, wherein the contacting is performed in a potato dextrose culture medium.

9. (Previously Presented) The method according to Claim 7, wherein the contacting is performed at a temperature of from 15 to 37°C.

10. (Previously Presented) The method according to Claim 7, wherein the contacting is performed for a time of from 3 to 8 days.

11. (Previously Presented) A method of making the enzyme according to Claim 1, comprising

contacting a microorganism comprising a DNA sequence of SEQ ID NO. 8 with a culture medium.

12. (Previously Presented) The method according to Claim 11, further comprising

separating the microorganism from the culture medium to produce a crude enzyme solution.

13. (Previously Presented) The method according to Claim 12, further comprising concentrating crude enzyme solution.

14. (Previously Presented) The method according to Claim 12, further comprising desalting the crude enzyme solution.

15. (Previously Presented) The method according to Claim 12, further comprising isolating the enzyme from the crude enzyme solution.

16. (Previously Presented) The method according to Claim 6, wherein

the dye is an azo-containing or anthraquinone-containing dye.

17. (Previously Presented) The method according to Claim 6, wherein

the dye is at least one member selected from the group consisting of Reactive black 5, Reactive red 33, Reactive yellow 2, Reactive blue 182, Reactive blue 19, Reactive blue 5, Reactive blue 114, 1-amino-4-(3-amino-4-sodium-sulfonoanilino)-2-sodium anthraquinone sulfonate, and 1-amino-4-methylamino-2-sodium-anthraquinone sulfonate.

18. (Previously Presented) The method according to Claim 6, wherein

the dye is at least one phenolic compound selected from the group consisting of 2,6-dimethoxyphenol and guaiacol.

19. (Previously Presented) The method according to Claim 6, wherein

the contacting is performed at temperature ranging from 15 to 35°C.

20. (Previously Presented) The method according to Claim 6, wherein the enzyme is immobilized.